

FIG. 1

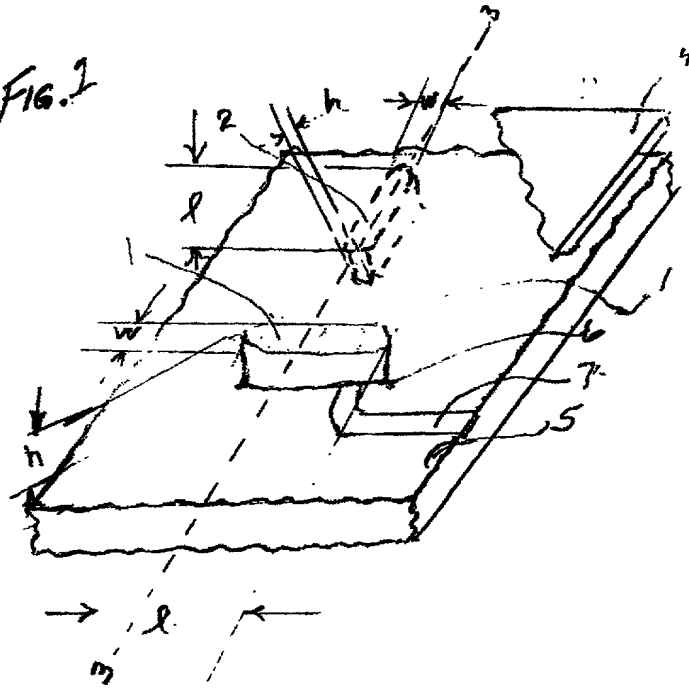


FIG. 3

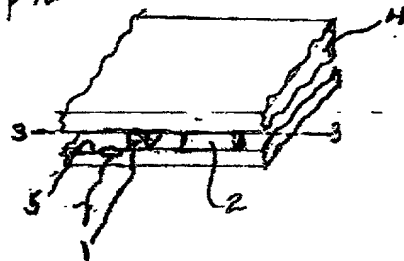


FIG. 2

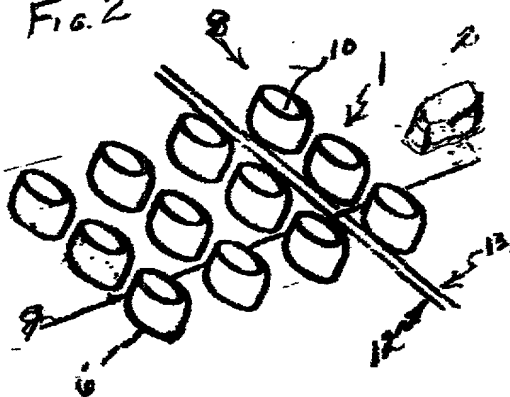


FIG. 4

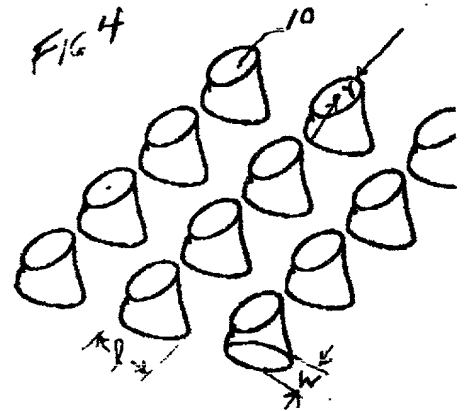
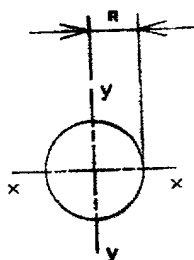


FIG. 5

FIG. 5A

Circle:



Area Moment of Inertia:

$$I_{xx} = 0.785 R^4 (\pi R^4 / 4)$$

FIG. 5B

Ellipse:

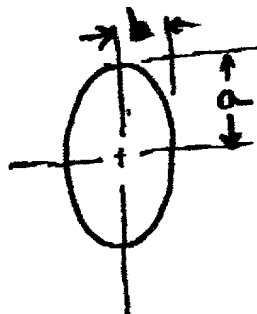
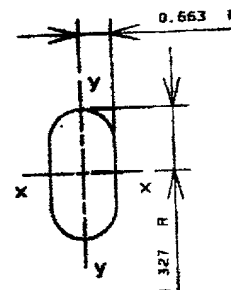


FIG. 5C

Oval:

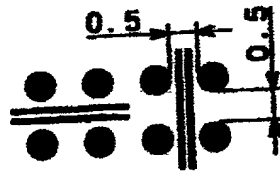
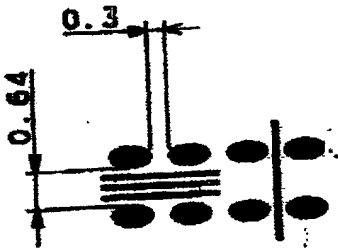


$$I_{xx} = 1.634 R^4$$

$$I_{yy} = 0.410 R^4$$

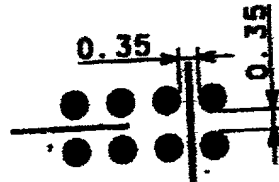
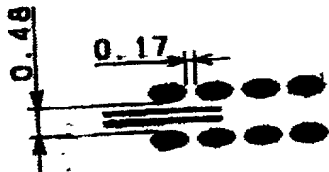
COLUMN
B

PRIOR ART
COLUMN
A



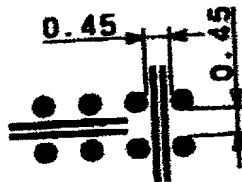
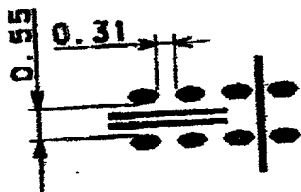
600 ball
500 contact
1000 pitch

FIG. 6 A



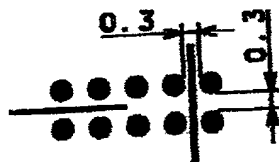
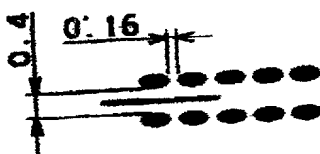
500 ball
450 contact
800 pitch

FIG. 6 B



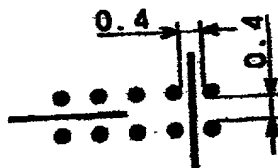
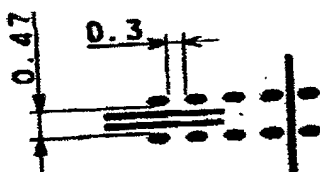
500 ball
350 contact
800 pitch

FIG. 6 C



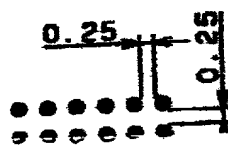
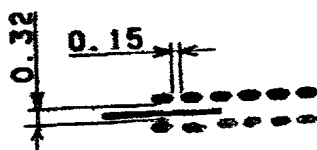
400 ball
350 contact
650 pitch

FIG. 6 D



300 ball
250 contact
650 pitch

FIG. 6 E

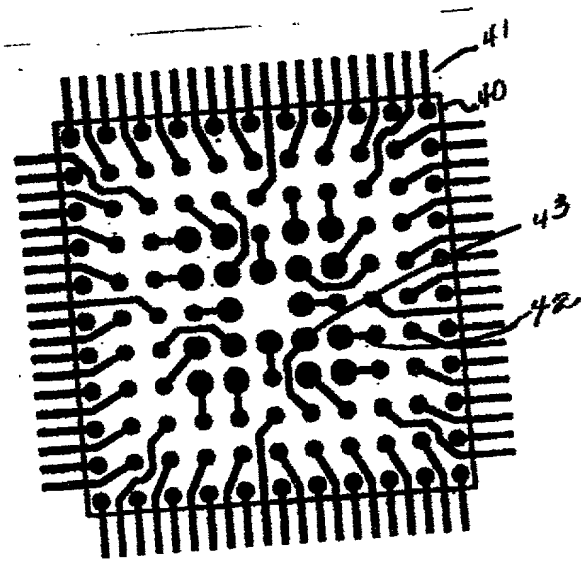


300 ball
250 contact
500 pitch

FIG. 6 F

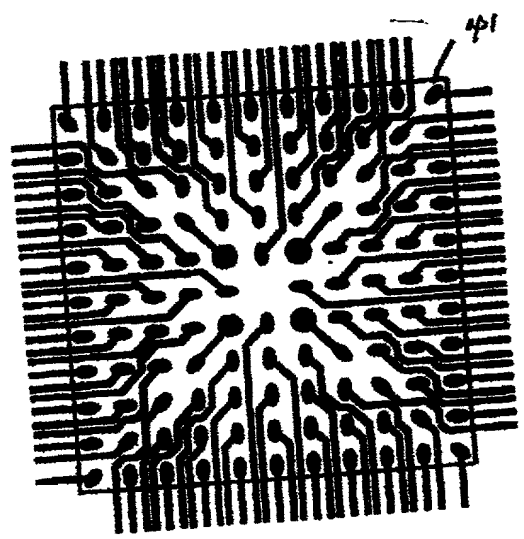
FIG. 6 A

FIG. 7
 PRIOR ART



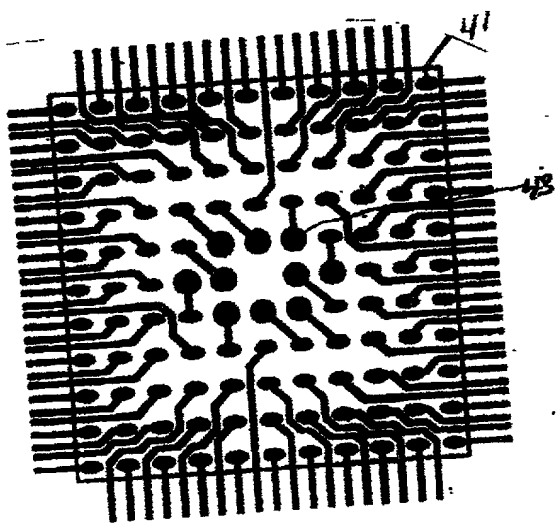
11x11
 80 out-edge
 20 out-vias
 100 total

FIG. 9



11x11
 112 out-edge
 4 out-vias
 116 total

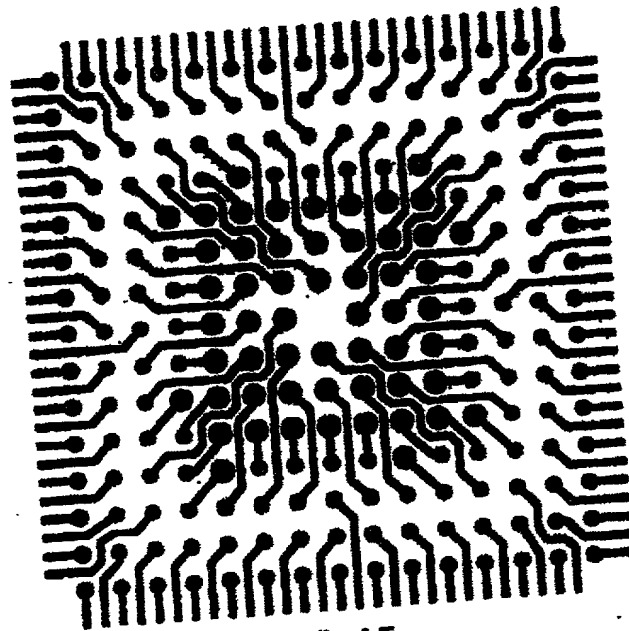
FIG. 8



11x11
 100 out-edge
 10 out-vias
 110 total

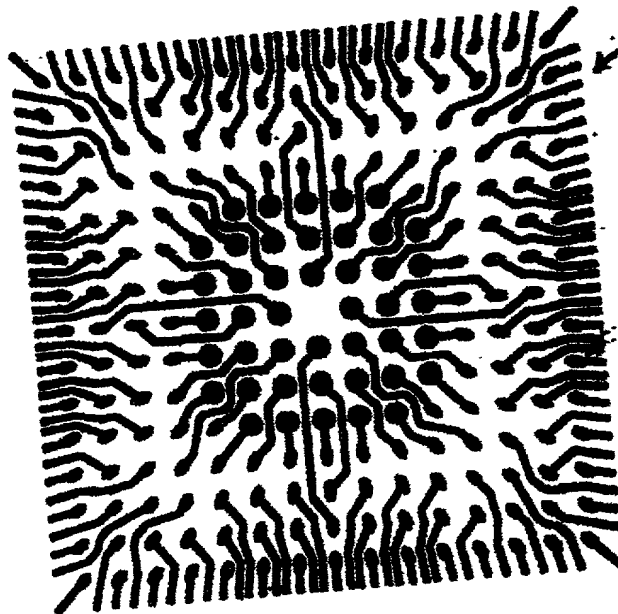
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FIG 10
PRIOR ART



15x15
112 out by edge
56 out by vias
168 total

FIG 11



15x15
136 out by edge
44 out by vias
180 total

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